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JAMES D. WELCH  
ATTORNEY AT LAW  
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2877/88

INTELLECTUAL PROPERTY  
402-391-4448

10328 PINEHURST AVE.  
OMAHA, NEBRASKA 68124

October 3, 2002

Assistant Commissioner  
for Patents  
Patent & Trademark Office  
Washington, D.C. 20231

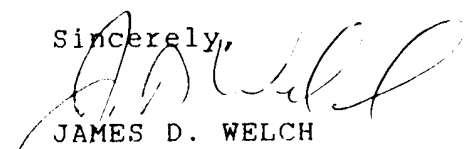
RE: APPLICATION OF JOHS ET AL. TITLED "MULTIPLE-ELEMENT LENS  
SYSTEMS AND METHODS FOR UNCORRELATED EVALUATION OF PARAMETERS  
IN PARAMETERIZED MATHEMATICAL MODEL EQUATIONS FOR LENS  
RETARDANCE, IN ELLIPSOMETRY AND POLARIMETRY";  
SERIAL NO. 09/583,229;  
FILE DATE: 5/30/00;  
ART UNIT UNKNOWN, (PROBABLY 2877);  
EXAMINER: UNKNOWN

SUBMITTAL OF SUPPLEMENTAL INFORMATION DISCLOSURE

Dear Sir;

Regarding the identified Application, please find enclosed a  
Supplemental Information Disclosure and a check for \$180.00

Sincerely,

  
JAMES D. WELCH  
JW/hs

In the United States Patent and Trademark Office

Appn. Number: 09/583,229  
Appn. Filed: 05/30/2000  
Applicant(s): JOHS ET AL.  
Appn. Title: MULTIPLE-ELEMENT LENS SYSTEMS AND METHODS FOR UNCORRELATED...  
Examiner/GAU: /324

Mailed: \_\_\_\_\_  
At: \_\_\_\_\_

Information Disclosure Statement

Commissioner of Patents and Trademarks  
Washington, District of Columbia 20231

Sir:

Attached is a completed Form PTO-1449 and copies of the pertinent parts of the references cited thereon.  
Following are comments on these references pursuant to Rule 98:

**PATENTS DEMONSTRATING USE OF LENSES IN  
ELLIPSOMETER SYSTEMS.**

Patent to Calvani et al., No. 4,671,657 Issued 9 June 1987 describes Achromatic Doublet in Quasi Monochromatic Light Beam.

Patent Application WO 91/14157 Published 19 September 1991 describes an Achromatic Doublet (116) in a Double Beam Spectrometer.

Patent Application of Rudolf Corp., WO 92/12404 published 23 July 1992, identifies the problem of providing multiple wavelengths to the same spot/point on a sample via lenses before and after a sample. It does not identify use of Achromatic Lenses however, and in particular not multiple element achromatic lenses.

Patent to Spanier et al., No. 5,166,752 Issued 24 November 1992 describes a simultaneous multiple angle/multiple wavelength ellipsometer and method, including focusing and recollimating lenses positioned directly before and after substrate. The focusing lens focuses light to a single spot onto substrate.

Patent to Morris, No. 5,349,471 Issued 20 September 1994 describes use of Achromatic Lens Doublet in Optical Data Storage Systems.  
Japanese Patent Application No. H6 (1994)-22332 Filed 21 February 1994 and Laid Open 29 August 1995 describes Achromatic Lenses prior to and after a sample.

Patent Application WO 96/18205 Published 13 June 1996 describes an Achromatic Lens (21) in a Fluorescence Imaging System.

Patent Application WO 99/02950 Published 21 January 1999 describes a Multi-element lens to focus light.

Patent to Aspnes No., 5,877,859 Issued 2 March 1999 describes an Achromatic Lens (16) prior to a Polarizer which colimates light in a Broadband Spectroscopic Rotating Compensator Ellipsometer System.

Patent 5,963,327 Patent to He et al. Issued 5 October 1999 identifies, via Figs. 3b and 3c the desirability of keeping spot size small, (achieved by varying angle of incidence), and shows lenses on both sides of the sample.

Patent to Patterson et al., No 5,978,087 Issued 2 November 1999 describes use of an Achromatic Lens (7) in an Optical Collector Head.

**PUBLISHED MATERIALS SHOWING USE OF MULTIPLE  
ELEMENT ACHROMATIC LENSES IN ELLIPSOMETER  
SYSTEMS PRIOR TO 11 JULY 2000**

Copy of December 1996 Vintage J.A. WOOLLAM CO. M-44/M-88  
MULTIWAVELENGTH ELLIPSOMETERS indicating Focused Spot to 20 Microns,  
including signed Letter from Roger Bruhn, the photographer who took the pictures  
therein, which letter attests to the date it was produced.

Copy of SOPRA Brochure disclosing their MOSS System, which utilizes Achromatic  
Focusing lenses and which predates 11 July 2000. Sopra is a competitor of the J.A.  
Woollam Co. Inc.

Article from October 1997 J. of Tribology titled "Flying Height Measurement on  $\text{Al}_2\text{O}_3$   
Film of a Magnetic Slider" by Yufeng Li of Samsung; discloses use of a J.A. Woollam  
Co. M-44 Multiwavelength Ellipsometer to focus a beam to 17 microns. This system  
had doublet achromatic lenses installed therein.

Article from Thin Solid Films Published 27 March 2000, by Zapien et al, showing use  
of achromatic focusing lenses before and after a sample in a spectroscopic  
ellipsometer.

Excerpts from a "classic" textbook titled OPTICS, by Hecht, Addison Wesley Press,  
(1977), which describes use of Multiple Element Achromatic Lenses.

Article from Thin Solid Films Published April 1993, by El-Ghazzawi et al, showing use of focusing lenses in the SOPRA company model "MOSS ES-4G Spectroscopic Ellipsometer"

Two J.A.Woollam Co. spectroscopic ellipsometer "models" with achromatic multiple-element lenses sold prior to July 11, 2000: "M-44 (44 wavelengths, blue to red), and "VASE" (continuous wavelengths from blue to infrared).

#### DETAILED DOCUMENTATION:

- "M-44" spectroscopic ellipsometers:
  - Catalog pages of Edmund Scientific Corporation achromatic lens sets (dated prior to July 11, 2000).
  - J.A.Woollam Co., Inc. Purchase Orders from Edmund Scientific Company, with catalog cover dates and part numbers predating July 11, 2000.
  - Evidence of sales (Purchase orders, shipping documents, invoices, from customers) of the "M-44" type spectroscopic ellipsometers containing achromatic focusing lenses prior to July 11, 2000.
  - Order bills for M-44 Ellipsometer with achromatic focusing lenses for NANOmatics Corporation. Order numbers correspond with "Packing List" and "Purchase Order Receiver" numbers listed in Erik Bylin's Affidavit.
- "VASE" spectroscopic ellipsometers:
  - Catalog pages of Melles Griot Corporation achromatic lens sets (with issue dates prior to July 11, 2000).
  - J.A.Woollam Co., Inc. Purchase Orders, packing list, shipping documents, invoices, from Melles Griot Corporation, with catalog cover dates and part numbers predating July 11, 2000.
  - Evidence of sales (Purchase orders, from customers) of the "VASE" type spectroscopic ellipsometers containing achromatic focusing lenses prior to July 11, 2000.
  - Instruction manual dated 1994 for use of the focusing VASE with achromatic focusing lenses.
  - VASE advertisement from February 1999 R&D Magazine.

#### U.S., EPO AND JAPANESE VERSIONS OF DANNER ET AL. PATENT APPLICATIONS:

EPO	EP 1 172 642 A2
JAPAN	2002098591 A
US	US 2002/0024669 A1

**AFFIDAVITS ATTESTING TO THE FACT THAT THE J.A. WOOLLAM CO.,  
INC. PROVIDED ELLIPSOMETER SYSTEMS WITH ACHROMATIC LENSES  
ON BOTH SIDES OF A SAMPLE PRIOR TO 11 JUNE 2000.**

Affidavit from John Woollam, President of J.A. Woollam Co.

Affidavit from Hiroki Hashimoto of Fujitsu Corporation, Japan in both English and Japanese; along with the Fujitsu purchase order sheet and Acceptance Report.

Affidavit from Michio Suzuki of J.A. Woollam Co., Japan in both English and Japanese; along with purchase order sheet.

Affidavit from Geng Wang of Samsung Information Systems America, Inc.; along with the purchase order and original quotation.

Affidavit from Erik Bylin, Product Manager, NANOMETRICS Corporation

SINCERELY,

JAMES D. WELCH

REG. NO. 31,216